

ABSTRACT

A method is provided for forming a highly active Fischer-Tropsch catalyst using boehmite having a particular crystallite size. In this method, a support material comprising boehmite is contacted with a catalytic metal-containing compound to form a catalyst precursor. The boehmite is selected to have an average crystallite size in the range of from about 6 nanometers (nm) to about 30 nm. An alternate embodiment uses a mixture of boehmites with various average crystallite sizes in the range of from about 4 nm to about 30 nm, differing by at least by 1 nm. Subsequently, the catalyst precursor is calcined to convert the boehmite to a stabilized aluminum oxide structure, thereby forming a catalyst support having a good attrition resistance and a relatively high hydrothermal stability.